

Remarks

I. Introduction

This is in response to the Office Action dated October 16, 2006.

The Office Action rejected claims 1-3, 5-8, 10, 11, and 13-16 under 35 U.S.C. §102(b) as being anticipated by INTERNET DRAFT “A Dynamic Protocol for Candidate Access-Router Discovery” (Trossen et al.). The Office Action rejected claims 4, 12, and 17-20 under 35 U.S.C. §103(a) as being unpatentable over Trossen et al. in view of U.S. Patent No. 7,065,340 (Einola et al.). The Office Action rejected claims 21, 25, 26, 28, 29, and 31 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,119,005 (Smolik) in view of U.S. Patent Publication 2002/0085514 (Illidge et al.). The Office Action rejected claims 22, 27, and 30 under 35 U.S.C. §103(a) as being unpatentable over Smolik in view of Illidge et al., and further in view of U.S. Patent No. 6,600,917 (Maupin). The Office Action rejected claim 23 under 35 U.S.C. §103(a) as being unpatentable over Smolik in view of Illidge et al., and further in view of U.S. Patent No. 6,813,357 (Matsuzaki, et al.). The Office Action rejected claim 24 under 35 U.S.C. §103(a) as being unpatentable over Smolik in view of Illidge et al., and further in view of U.S. Patent No. 6,370,380 (Norefors, et al.).

In response to the §102(b) rejection, independent claims 1, 11, and 17 have been cancelled. Dependent claims 5, 13, and 18 have been rewritten in independent form, incorporating the limitations of the claims from which they depend. The dependency of claims 2-4, 6-12, 14-17, and 19-21 has been amended so that these claims depend upon the newly independent claims.

Applicants respectfully traverse the rejections of the Examiner with regards to newly independent claims 5, 13, and 18 and have provided arguments to support allowance of these claims. All dependent claims are allowable based on their dependence on allowable independent claims. Further arguments have been provided regarding the dependent claims.

In response to the §103 rejection, Applicants respectfully traverse the rejections of the Examiner and have provided arguments to overcome the rejection.

Claims 32-34 are newly presented and are allowable over the cited art.

Claims 2-10, 12-16, and 18-34 are currently pending.

II. Rejections to Claims 1-3, 5-8, 10, 11, and 13-16 under 35 U.S.C. §102

Claims 1-3, 5-8, 10, 11, and 13-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Trossen. In order for a claim to be anticipated under 35 U.S.C. §102, **each and every** limitation of the claim must be found either expressly or inherently in a single prior art reference. PIN/NIP, Inc. v. Platte Chem. Co., 304 F.3d 1235, 1243 (Fed. Cir. 2002).

Independent claims 1, 11, and 17 have been cancelled. Dependent claims 5, 13, and 18 have been rewritten in independent form, incorporating the limitations of the claims from which they depend. The newly independent claims 5, 13, and 18 are allowable because the cited reference does not show each and every limitation of these claims. Applicants therefore request the withdrawal of the rejection to this claim under 35 U.S.C. §102(b).

In the Trossen reference, a mobile terminal (MN) is connected to a first access router. When the MN connects to a second access router, the first or previous access router (PAR) sends a message with data relating to the PAR and MN to the second or new access router (NAR). In this manner, the MN is handed off from the PAR to the NAR. The handoff is allowed only when the MN left the PAR within a designated threshold time frame. If the threshold time frame is too long, this would allow for a Delayed Delivery Attack whereby false data could be transmitted to the NAR. The PAR verifies the NAR is legitimate by verifying the IP address of the NAR, exposing the NAR to a Third Party Delivery Attack.

The claims of the present application claim sending a message from the PAR to the NAR. However, the handoff is allowed based on stay time. Stay time, as described in the specification, is the length of time the MN has been with the NAR. By utilizing this information, prevention of a Delayed Delivery Attack can be avoided. Further, in the

present application, the PAR verifies the NAR is legitimate by verifying the physical (MAC) address of the NAR, preventing a Third Party Delivery Attack.

Claims 5 and 13 claim the limitation of verifying the information provided by the mobile terminal by, “measuring delay occurring during the handoff of the mobile terminal to the second access node.” The Office Action states that the Trossen reference teaches, “NAR checks with the PAR to see if the MN was recently present in the PAR’s network”. As stated above, Trossen refers to how long ago the MN was connected to the PAR. However, in the present application, what is measured is the length of time that the MN has been connected to the NAR. Thus, the measured information of the prior art and the present application are not analogous. This limitation of claim 5 and 13 has not been taught by the Trossen reference. Since each and every limitation of the claim language has not been taught by the prior art, claim 5 and 13 are allowable.

Claim 18 claims a similar limitation, namely, “wherein the ticket is utilized by the access nodes to measure delay occurring during the handoff.” For reasons similar to those discussed above in connection with claims 5 and 13, this limitation has not been taught by the Trossen reference. Therefore, claim 18 is allowable.

Dependent claims 2-3, 6-8, 10, and 14-16 are allowable because they are dependent upon an allowable independent claim.

III. Rejections to Claims 21, 25, 26, 28, 29, 31 under 35 U.S.C. §103(a)

The Office Action rejected claims 21, 25, 26, 28, 29, and 31 under 35 U.S.C. §103(a) as being unpatentable over Smolik in view of Illidge et al.

Smolik disclose a system for updating handoff “neighbor lists” in a cellular communication system. The Smolik patent focuses on utilizing pilot strength measurements taken at a mobile subscriber unit and providing the measurements back to a base station serving the existing call connection. These measurements are used by the base station to essentially rank possible handoff base stations in a “neighbor list”. The

list represents possible base stations to which the call connection can be transferred in a traditional cellular “handoff.”

First, the “access nodes” in independent claims 21 and 26 do not refer to base stations, but rather to nodes which provide access to a packet communication network such as the Internet. This is illustrated, for example, by FIG. 1, which depicts a single access node (e.g., “AR1”) serving multiple base stations. As a mobile terminal moves from the base station 121 to base station 122, this results in a traditional handoff; this does not result in a handoff of an access node until the mobile terminal moves to the vicinity of base station 123 served by access node “AR2”. Thus, the access nodes of claim 21 and 26 are not analogous to the neighbor list of the prior art.

Second, Smolik does not disclose the limitation in claims 21 and 26, namely, “updating a candidate access node list . . . to reflect candidate access nodes discovered by the mobile terminal”. Smolik deals with cellular systems with a predefined layout of base stations and carefully engineered cells. The mobile stations in the Smolik patent do not “discover” new candidate access nodes. The present invention, on the other hand, can be used with ad hoc networks where access nodes are added and removed from the network arbitrarily, e.g., such as the wireless local area networks which have become more pervasive over the last several years. The secure discovery of new candidate access nodes is accomplished through the techniques disclosed in the present invention.

Further, the Office Action has not made a *prima facie* argument for combining Smolik with Illidge. According to the MPEP, chapter 2142 (“Legal Concept of Prima Facie Obviousness”), “The examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness.

Chapter 2142 further states, “[t]o establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.” The Office Action has failed to satisfy the requirements of chapter 2142.

With regards to claims 21, 25, 26, 28, 29, and 31, the Office Action states, “It would have been obvious to one of ordinary skill in the arts at the time the invention was made to combine the teachings of Illidge into those of Smolik, for the reasons mentioned above.” However, no reasons have been provided. The Office Action has failed to show a suggestion or motivation to combine the references. Therefore, the Office Action has not made a prima facie showing of obviousness. As such, claims 21, 25, 26, 28, 29, and 31 are allowable.

Claims 22-24, 27, and 30 are allowable because they are dependent upon allowable independent claims. For the reasons presented with regards to claims 21, 25, 26, 28, 29, and 31, these claims are also allowable. Further arguments to support allowability of these claims are provided below.

Claims 22, 27, and 30 claim the limitation of, “candidate access node list is represented as a bitmap whose bits correspond to entries in a candidate access node table stored in the access node.” The Maupin patent notably merely states that a “base station broadcasts (e.g., in a BCCH message) a capabilities message which includes a supported service bitmap that is decoded by all user equipment units.” (Maupin, col. 2, lines 64-67.) As made clear from the patent, accordingly, the bitmap represents “supported services” where each bit indicates a “radio access technology type”. The Maupin patent does not disclose a “Candidate access node list” represented as a “bitmap” where each bit corresponds to an entry in the candidate access node table.

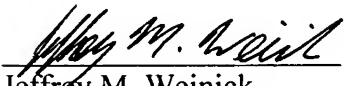
IV. No New Matter

Claims 32-34 add the limitation of a verifying the information sent by to the NAR from the PAR by checking “a physical (MAC) address of the first access node”. Support for claims 32-34 is found in at least paragraph [0027] and [0028] of the specification.

V. Conclusion

Currently pending claims 1-10, 12-16, and 18-34 are allowable over the cited art. Reconsideration and allowance of all claims is respectfully requested.

Respectfully submitted,



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